

Practice 3-5

Lines in the Coordinate Plane

Write an equation of the line with the given slope that contains the given point.

1. $F(3, -6)$, slope $\frac{1}{3}$
2. $Q(5, 2)$, slope -2
3. $A(3, 3)$, slope 7
4. $B(-4, -1)$, slope $-\frac{1}{2}$
5. $L(-3, -2)$, slope $\frac{1}{6}$
6. $R(15, 10)$, slope $\frac{4}{5}$
7. $D(1, -9)$, slope 4
8. $W(0, 6)$, slope -1

Graph each line using slope-intercept form.

9. $2y = 8x - 2$
10. $2y = \frac{1}{2}x - 10$
11. $3x + 9y = 18$
12. $-x + y = -1$
13. $y + 7 = 2x$
14. $4x - 2y = 6$
15. $5 - y = \frac{3}{4}x$
16. $\frac{1}{3}x = \frac{1}{2}y - 1$

Graph each line.

17. $y = 5x + 4$
18. $y = \frac{1}{2}x - 3$
19. $x = -2$
20. $y = -2x$
21. $y = -5$
22. $y = x$
23. $y = -\frac{2}{3}x + 2$
24. $x = 2.5$

Write an equation of the line containing the given points.

25. $A(2, 7), B(3, 4)$
26. $P(-1, 3), Q(0, 4)$
27. $S(10, 2), T(2, -2)$
28. $D(7, -4), E(-5, 2)$
29. $G(-2, 0), H(3, 10)$
30. $B(3, 5), C(-6, 2)$
31. $X(-1, -1), Y(4, -2)$
32. $M(8, -3), N(7, 3)$

Write equations for (a) the horizontal line and (b) the vertical line that contain the given point.

33. $Z(2, -11)$
34. $D(0, 2)$
35. $R(-4, -4)$
36. $F(-1, 8)$

Graph each line using intercepts.

37. $3x - y = 12$
38. $2x + 4y = -4$
39. $\frac{1}{2}x + \frac{1}{2}y = 3$
40. $12x - 3y = -6$
41. $2x - 2y = 8$
42. $\frac{1}{4}x + 2y = 2$
43. $-6x + 1.5y = 18$
44. $0.2x + 0.3y = 1.8$

45. Hourly Wages The equation $P = \$3.90 + \$0.10x$ represents the hourly pay (P) a worker receives for loading x number of boxes onto a truck.

- a. What is the slope of the line represented by the given equation?
- b. What does the slope represent in this situation?
- c. What is the y-intercept of the line?
- d. What does the y-intercept represent in this situation?

46. Inclines The Blackberrys' driveway is difficult to get up in the winter ice and snow because of its slope. What is the equation of the line that represents the Blackberrys' driveway?

